

REMARKS

SPECIFICATION

A substitute specification was filed according to 37 C.F.R. § 1.125(b) on August 26, 2005. The substitute specification and a marked up copy of the specification were provided as required. According to the Office Action mailed July 10, 2006, the marked up copy of the specification was not received. Documents showing that the substitute specification and a marked up copy of the specification were provided as required are attached hereto. In view thereof, Applicants respectfully request acceptance of the substitute specification resubmitted herewith. In accordance with a telephone conference with the examiner on July 20, 2006, the re-submission of the substitute specification and a marked up copy of the specification is believed to satisfy the requirements of 37 C.F.R. § 1.125(b) and (c).

RESTRICTION REQUIREMENT

According to the Office Action, in accordance with 37 C.F.R. § 1.499, Applicant is required to elect a single invention to which the claims must be restricted. According to the Office Action, Applicant may choose to elect a single invention by identifying another specific embodiment not listed in the exemplary groups of the invention and Examiner will endeavor to group the same. The groups generally set forth in the Office Action are as follows:

Group I: Claims 1-4 (in part) and 17-18 (in part) drawn to a deuterated polyimide as shown in the Office Action;

Group II: Claims 1 (in part) and 5-6 (in part) drawn to a deuterated polyimide as shown in the Office Action;

Group III: Claims 7-10 (in part) drawn to a method of making a deuterated polyimide as shown in the Office Action;

Group IV: Claims 11-12 (in part) drawn to a deuterated dianhydride monomer as shown in the Office Action;

Group V: Claim 13 (in part) drawn to a method of making a deuterated dianhydride monomer as shown in the Office Action;

Group VI: Claim 14 (in part) drawn to a method of making a deuterated diamine monomer as shown in the Office Action;

Group VII: Claim 15 (in part) drawn to a film based on a deuterated polyimide as shown in the Office Action; and

Group VIII: Claim 19 (in part) drawn to a material comprising a deuterated polyimide as shown in the Office Action.

In complete response to the Restriction Requirement mailed July 10, 2006, Applicants elect, with traverse, the following, which is not listed in the exemplary groups of the Office Action. This election comprises the following:

- claims 1-6, 17-18 relating to a deuterated polyimide comprising at least one repeat unit corresponding to the formula (I) and at least one repeat unit corresponding to the formula (II).

The embodiments elected by Applicants are illustrated by the following examples:

- Example 1 illustrating the preparation of a polyimide comprising one repeat unit of formula (I), in which Y is a single bond, and one repeat unit of formula (II) in which A¹ is a perdeuterated aryl group (isomer para) and Z is a single bond, said polyimide in a form of a film presenting, among other properties, a tensile strength of 335 MPa and is completely transparent within the region from 2500 to 3500 cm⁻¹;
- Example 2 illustrating the preparation of a polyimide comprising one repeat unit of formula (I), in which Y is a single bond, and one repeat unit of formula (II) in which A¹ is a perdeuterated aryl group (isomer meta) and Z is a single bond, said polyimide in a form of a film presenting, among other properties, a tensile strength of 340 MPa and is completely transparent within the region from 2500 to 3500 cm⁻¹;
- Example 3 illustrating the preparation of a polyimide comprising one repeat unit of formula (I), in which Y is a single bond, and one repeat unit of formula (II) in which A¹ is a perdeuterated aryl group (isomer para) and Z is a group -O-C₆D₄-, said polyimide in a form of a film presenting, among other properties, a tensile strength of 120 MPa and is completely transparent within the region from 2500 to 3500 cm⁻¹;
- Example 4 illustrating the preparation of a polyimide comprising one repeat unit of formula (I), in which Y is a spacer group -O-, and one repeat unit of formula (II) in which A¹ is a perdeuterated aryl group (isomer para) and Z is a single bond, said polyimide in a form of a film presenting, among other properties, a tensile strength of 180 MPa and is completely transparent within the region from 2500 to 3500 cm⁻¹;

- Example 5 illustrating the preparation of a polyimide comprising one repeat unit of formula (I), in which Y is a spacer group $-O-$, and one repeat unit of formula (II) in which A^1 is a perdeuterated aryl group (isomer para) and Z is a group $-O-C_6D_4-$, said polyimide presenting in a form of a film, among other properties, a tensile strength of 140 MPa and is completely transparent within the region from 2500 to 3500 cm^{-1} ;
- Example 6 illustrating the preparation of a polyimide comprising one repeat unit of formula (I), in which Y is a spacer group $-CO-$, and one repeat unit of formula (II) in which A^1 is a perdeuterated aryl group (isomer para) and Z is a single bond, said polyimide presenting in a form of a film, among other properties, a tensile strength of 175 MPa and is completely transparent within the region from 2500 to 3500 cm^{-1} ;
- Example 7 illustrating the preparation of a polyimide comprising one repeat unit of formula (I), in which Y is a spacer group $-CO-$, and one repeat unit of formula (II) in which A^1 is a perdeuterated aryl group (isomer para) and Z is a group $-O-C_6D_4-$, said polyimide presenting in a form of a film, among other properties, a tensile strength of 135 MPa and is completely transparent within the region from 2500 to 3500 cm^{-1} ;
- Example 8 illustrating the preparation of a polyimide comprising one repeat unit of formula (I), in which Y is a spacer group $-O-C_6D_4-$, and one repeat unit of formula (II) in which A^1 is a perdeuterated aryl group (isomer para) and Z is a group $-O-C_6D_4-$, said polyimide presenting in a form of a film, among other properties, a tensile strength of 130 MPa and is completely transparent within the region from 2500 to 3500 cm^{-1} ;
- Example 9 illustrating the preparation of a polyimide comprising one repeat unit of formula (I), in which Y is a single bond, and one repeat unit of formula (II) in which A^1 is a perdeuterated aryl group (isomer para) and Z is a single bond and one repeat unit of formula (II), in which said polyimide presenting in a form of a film, among other properties, a tensile strength of 300 MPa and is completely transparent within the region from 2500 to 3500 cm^{-1} ;
- Example 10 illustrating the preparation of a polyimide comprising one repeat unit of formula (I), in which Y is a single bond, and one repeat unit of formula (II) in which A^1 is a perdeuterated aryl group (isomer para) and Z is a single bond and another repeat unit of formula (II) in which A^1 is a perdeuterated aryl group (isomer para) and Z is a group $-O-C_6D_4-$, said polyimide presenting in a form of a film, among other properties, a tensile strength of 210 MPa and is completely transparent within the region from 2500 to 3500 cm^{-1} ;

- Example 11 illustrating the preparation of a polyimide comprising one repeat unit of formula (I), in which Y is a -CO-, and one repeat unit of formula (II) in which A¹ is a perdeuterated aryl group (isomer para) and Z is a single bond and another repeat unit of formula (II), which A¹ is a perdeuterated aryl group (isomer para) and Z is a group -O-C₆D₄-, said polyimide presenting in a form of a film, among other properties, a tensile strength of 145 MPa and is completely transparent within the region from 2500 to 3500 cm⁻¹.

These examples illustrate the election made hereinabove.

In addition, Applicants respectfully request that the following claims also be included in the election and be examined with the foregoing elected group:

- claims 7-10 relating to a preparation process of the deuterated polyimide defined above;
- claims 11-12 relating to a deuterated dianhydride monomer corresponding to formula (V);
- claim 13 relating to a process of preparation of the deuterated dianhydride monomer mentioned above;
- claim 15 relating to a film based on a deuterated polyimide as defined above;
- claim 19 relating to a transparent material comprising a deuterated polyimide.

Having made the foregoing election in compliance with the required election, Applicants respectfully traverse the restriction and request that all of the claims be examined as presented. As this application corresponds to the U.S. national phase of the PCT application PCT/EP2004/050145, it is subject to the PCT standards of invention unity and restrictions. Applicants respectfully point out that no unity of invention objection was raised during the international phase of the present application. The conclusions of the International Search Authority should be respected in this matter, to the extent that the International Search has been made for all the claims. *See, for example, MPEP § 1850, page 1800-96 and the Written Opinion issued during the PCT proceedings.* Hence, Applicants believe that the present claims meet the PCT Guidelines concerning the invention unity.

Moreover, the present invention concerns a family of perdeuterated polyimides which exhibit good mechanical performances (such as a tensile strength of greater than 110 MPa) and a complete transparency within a transmission region from 2500 to 3500 cm⁻¹. In point 10.17 of the PCT Guidelines, Chapter 10, it is well explained that, in the case of alternatives

have a common property, as in the present situation (see examples 1-11). Hence, the separation into Groups I and II for the polyimides is inappropriate.

Moreover, according to the PCT Guidelines, it is accepted to have a combination of different categories of claims (in addition to an independent claim for a given product (claim 1), an independent claim for a process specially adapted for the manufacture of the said product (claim 7) and independent claims for a use of the product (claim 15 for a use as a film and claim 19 for a use as transparent material)). It is also accepted, according to the PCT Guidelines, to have, in the same application, claims relating to final products (polyimides-independent claim 1) and to intermediate products (monomers necessary to the obtaining of polyimides-independent claim 11) and by analogy, processes for obtaining intermediate products (independent claim 13).

As a consequence, Applicants consider that at least Groups I, II, III, IV, V, VII and VIII must not be separated to be in conformity with the PCT Guidelines.

For the aforementioned reasons, Applicants respectfully request reconsideration of the Restriction Requirement and examination of all of the claims presented. If any questions remain, the Examiner is invited to contact the undersigned at the number given below.

Respectfully submitted,

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Date of Signing: 10/10/2006